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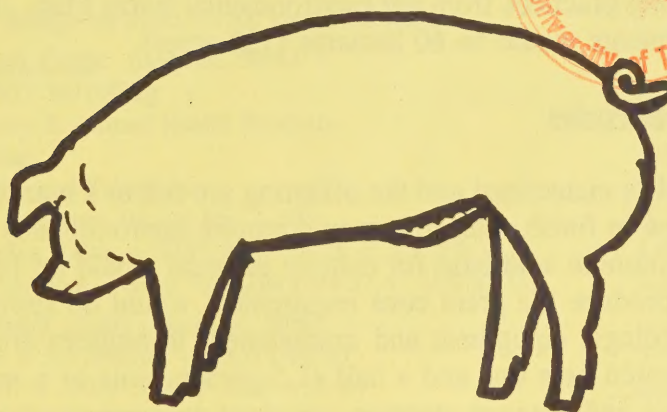
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CALCULATING PORK PRODUCTION COSTS AND RETURNS IN YOUR PORK ENTERPRISE

- Feeder Pig
- Farrow to Finish
- Finishing



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July 1993 Edition

(Replaces September 1986 Edition)

GENERAL

In commercial pork production in Ontario, there are three main types of swine enterprises - Feeder Pig, Farrow to Finish and Finishing. In Ontario, there are approximately 100 swine breeding enterprises that sell boars and/or gilts to the commercial pork industry. The majority of Ontario swine farms are land based. New entrants into the pork industry may not initially be land based due to the high capitalization costs. Many specialized swine enterprises today with a land base hire custom operators to do their field work. This allows the specialized pork producer to have minimal costs tied up in farm machinery and allows the producer to devote full time to his or her swine enterprise.

1. Feeder Pig Enterprise

In this enterprise, a sow herd is maintained and the offspring; feeder pigs or weaner pigs, are sold at a liveweight of approximately 25 kg. In the budget, it is assumed that the enterprise is a 180 sow enterprise selling 20 feeder pigs per sow per year. There are some well managed operations in Ontario that are selling over 20 feeder pigs/sow/year.

If modern buildings, equipment and management techniques are employed, a 180 sow feeder pig enterprise can be operated by one person (1.0 person units). This enterprise would require approximately 180 tonnes or 7,093 bushels of dry corn for the grain portion of the ration. The minimum land base, 46 hectares (115 acres) would provide adequate land for manure disposal. This is consistent with good farming practices from the Environmental Farm Plan. The preferred land base to produce the grain requirements would be 60 hectares (150 acres).

2. Farrow to Finish Enterprise

In this enterprise, a sow herd is maintained and the offspring are fed to a market live weight of 105 kg (232 lbs.). A 180 sow farrow to finish enterprise would require approximately 1120 tonnes or 44,094 bushels of dry corn. The minimum land base for manure disposal would be 140 hectares (350 acres). The preferred land base to produce the grain corn requirement would be approximately 160 hectares (400 acres). If modern buildings, equipment and management techniques are employed, a 180 sow farrow to finish operation would be a one and a half (1.5 person units or a man and wife operation) person unit. Buildings, feed and manure storages are sized to accommodate 3600 hogs marketed annually.

3. Finishing Enterprise

In this enterprise, feeder pigs are purchased at a liveweight of approximately 25 kg and are marketed at a liveweight of 105 kg (232 lbs.). In the budget, it is assumed that 3600 market hogs will be sold annually. These feeder pigs can be purchased in groups of 160 to fill one room and marketed in approximately 100 days. This type of enterprise is an all-in-all-out finishing enterprise. If modern buildings, equipment and management techniques are employed and 3600 hogs marketed annually, this would be an easy one person operation or .75 person units. This enterprise would require 940 tonnes or 37,008 bushels of dry corn to supply the grain portion of the ration or ten bushels of dry corn per hog marketed. The minimum land base for manure disposal would be 100 hectares (250 acres). The preferred land base to supply the grain corn requirement would be 120 hectares (300 acres).

SWINE BUDGET - MAY 1993

A. Feeder Pig Enterprise Budget - 180 Sows - Per Sow

Your Costs

Income:

20 feeders @ 25 kg @ \$225.00/100 kg = \$56.25 x 20 \$1125.00

Operating or Cash Costs: (approx. 70%)

(1) Feed - Dry, Nursing and Boar Ration 1275 kg @ \$16.92 /100 kg	\$215.75	
Pig Pre-Starter - 30 kg @ \$77.50/100 kg	23.25	
Pig Starter - 560 kg @ \$35.91/100 kg	201.07	
(2) Services - Veterinary & Animal Health Products	25.00	
Marketing (Feeder Pigs & Cull Sows)	30.85	
Electricity and Telephone	42.00	
(3) Interest on Feed and Services - \$537.92 x .070 x .5 x .5	\$ 9.42	\$547.34

Capital Costs or Overhead Costs: (Approx. 30%) Sow Ownership, Buildings and Equipment

(1) Depreciation - <u>Original Value - Salvage Value</u> = <u>\$259.88 - \$194.17</u> = \$ 26.28		
Number of Productive Years	2.5	
(2) Interest on Investment - \$259.88 + \$194.17 ÷ 2 = \$227.03 x 6.0	13.62	
(3) Death Loss - Average Value \$227.03 x .05	11.35	
(4) Boar Ownership - Original Value + Cull Value ÷ 2 x 3.0%		
\$519.76 + \$160.92 ÷ 2 = \$340.34 x 3.0	10.21	
(5) **Housing (12.0% x 256,435.00 ÷ 180 sows x 50%)	85.40	
(6) **Equipment (15.67% x 170,015.00 ÷ 180 sows x 50%)	\$ 74.07	\$ 220.93
TOTAL COST \$153.65/100 kg based on 25 kg feeder pig or \$38.38/feeder pig		\$ 768.27
NET RETURNS TO OWNERS LABOUR RISK & MANAGEMENT = +\$17.84/feeder pig		\$ +356.73

B. Finishing Section Budget or Farrow to Finish Enterprise (3600 hogs/year) Income Per Hog

Income:

.82 kg of Hog Dressed Weight @ \$150.91/100 kg x 1.05 index \$129.93

Operating Costs or Cash Costs: (Approx. 90%)

(1) Feed - 261 kg @ \$17.33/100 kg	\$ 45.22	
(2) Services - Veterinary & Animal Health Products	2.00	
Marketing	4.25	
Electricity and Telephone	2.00	
(3) Feeder Pig Cost - February '93 (40.95 - 1.30)	39.35	
(4) Death Loss - Average Value = \$129.93 + 39.35 ÷ 2 x 2%	1.69	
(5) Interest on Feed, Services, Feeder Pig Cost (\$94.51 x .070 x .33)	2.18	96.69

Capital Costs or Overhead Costs: (Approx. 10%)

(1) **Housing (12.0% x 355,540.00 ÷ 3600 x 50%)	5.93	
(2) **Equipment (15.67 x 130,175.00 ÷ 3600 x 50%)	2.84	8.77
TOTAL COSTS/HOG MARKETING \$128.61/100 kg based on a 82 kg carcass		105.46
NET RETURNS TO OWNERS LABOUR RISK & MANAGEMENT/HOG MARKETING		\$ +24.47

C. Finishing Budget (Purchased Feeder Pigs) Enterprise (3600 Hogs/Year) Income Per Hog

Income: Similar to B

\$129.93

Operating Costs: (90%) Feed \$45.22; Services \$8.25; Feeder Pig Cost Feb. '93

\$58.25 + \$3.20 = \$61.45; Death Loss \$1.91; Interest \$2.70 (\$116.28 x .070 x .33) \$119.53

Capital Costs: (10%) **Housing \$5.43; **Equipment \$3.97

\$ 8.77

TOTAL COSTS/HOG MARKETING \$156.46/100 kg based on a 82 kg carcass

\$128.30

NET RETURNS TO OWNERS LABOUR RISK & MANAGEMENT/HOG MARKETING

\$ + 1.63

**IF NEW BUILDINGS & EQUIPMENT ARE USED THESE FIGURES SHOULD BE DOUBLED.

SUMMARY OF PORK PRODUCTION RETURNS AND COSTS

<u>Hog Enterprise</u>	<u>*Return to Labour/Hog</u>	<u>Operating Costs</u>	<u>Capital Costs</u>	<u>**Break-Even Costs</u>	<u>***Break-Even Costs</u>
		(-----Per 100 kg-----)			
A. Feeder Pig	+ 17.84	109.47	44.18	153.65	185.65
B. Farrow to Finish	+ 24.47	117.91	10.70	128.61	143.61
C. Finish	+ 1.63	145.76	10.70	156.46	163.46

*Does not include stabilization premiums or payouts.

**No labour charge included in costs.

***Canadian industrial labour charge of \$559.79/week included in costs (Mar. '93).

6. ESTIMATED NET RETURN TO LABOUR (DOES NOT INCLUDE STABILIZATION PREMIUMS OR PAYOUTS)

100 SOW ENTERPRISE - 1992 AVERAGE INPUT COSTS AND RETURNS						
Pigs Marketed Per Sow Per Year						
Enterprise	16	18	20	22	24	26
Feeder Pig	-\$2,256	\$3,744	\$10,000	\$16,280	\$28,808	\$61,204
Farrow-Finish	\$4,832	\$24,040	\$33,616	\$43,200	\$52,806	\$99,034

7. PROJECTED RETURNS HOG FINISHING ENTERPRISE - PER HOG MARKETED

***Projected Income:**

July '93 Futures (June 1/93) $\$49.27 \div .79 \div 1.05 - 1.22 \times 1.2910 = \$75.11/\text{cwt.} \times 2.205$
 $= \$165.62/100 \text{ kg}$
 $.82 \text{ kg} \times \$165.62/100 \text{ kg} \times 1.05 = \142.60

***Projected Operating Costs:**

(1) Feeder Pig - 25 kg $\times \$225.00/100 \text{ kg} = \$56.25 + \$3.20 = \59.45
(2) Feed Cost - 261 kg $\times \$17.33/100 \text{ kg} = 45.22$
(3) Services - Vet, Mkt., Elec. & Tel. (8.25), Death Loss (2.02), Interest (2.66) = 12.93

***Projected Capital Costs:** Housing and Equipment 8.77 126.37

NET RETURNS TO OWNERS, LABOUR RISK & MANAGEMENT PER HOG MARKETED +16.23

***Please note:** There is no guarantee that these projections will apply in July 1993.

8. MARKET SUMMARY

Southwestern Ontario Feeder Pig Prices Per kg Live (Based on a 25 kg Feeder Pig)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg.
1991	2.38	2.69	2.48	2.67	2.29	1.98	1.92	1.89	1.48	1.61	1.71	1.76	2.07
1992	1.61	1.80	1.82	1.72	1.68	1.72	1.55	1.46	1.35	1.71	1.97	1.98	1.70
1993	1.92	2.33	2.29	2.46	2.25								2.25

Ontario Market Hog Pool Prices Per kg Dressed

1991	1.49	1.57	1.53	1.51	1.60	1.70	1.57	1.53	1.36	1.31	1.18	1.16	145.53
1992	1.09	1.24	1.22	1.23	1.35	1.46	1.38	1.36	1.34	1.37	1.42	1.41	131.44
1993	1.37	1.43	1.45	1.47	1.51								144.35

Net Returns Per Hog Marketed to Owners Labour Risk and Management

Feeder Pig Enterprise

1991	23.75	30.39	25.25	30.12	20.04	12.39	12.29	9.52	-2.59	3.32	6.70	8.09	14.94
1992	3.73	7.75	6.52	5.25	1.34	1.72	-1.82	-3.39	6.55	2.08	7.76	7.65	3.76
1993	6.78	17.90	16.43	20.46	15.02								15.32

Farrow to Finish Enterprise

1991	28.33	38.94	35.01	33.01	40.24	48.35	45.48	33.61	18.14	13.47	2.17	1.73	28.21
1992	-3.08	9.90	8.08	5.59	15.38	21.33	15.01	11.79	9.21	11.82	16.60	13.65	11.27
1993	12.35	14.84	17.66	19.11	24.27								17.65

Finishing (Purchased Feeder Pigs) Enterprise

1991	2.31	10.24	5.84	5.25	4.02	19.10	3.83	9.22	-2.66	-1.87	-11.97	-2.26	3.42
1992	-10.66	-1.19	-5.21	-2.51	3.35	10.41	5.41	6.45	1.67	7.03	16.06	16.39	3.93
1993	4.05	2.64	5.44	8.61	1.56								4.46

****Corn (Paying Price/100 kg F.O.B. Farm London Area) (to convert to bushels $\div 2.205 \times .56$)**

1991	10.12	11.18	10.87	11.30	10.83	10.55	9.45	10.55	10.00	9.76	9.57	9.84	10.34
1992	10.43	11.14	11.73	11.30	11.34	11.77	11.73	10.39	11.61	10.98	11.65	12.21	11.36
1993	11.81	11.14	11.10	11.42	11.34	10.63							11.24

****48% Soybean Meal (Price/100 kg Hamilton + 20.00/tonne Freight)**

1991	25.50	25.83	27.14	25.13	27.27	26.89	25.78	27.65	28.75	29.59	27.87	26.55	27.00
1992	26.66	27.05	27.42	27.09	27.77	29.27	28.32	27.10	29.38	28.31	28.24	28.83	27.95
1993	29.57	27.12	28.58	29.10	29.42	30.60							29.07

****Commercial Banks - Prime Interest Rates**

1990	13.50	13.50	14.25	14.25	14.75	14.75	14.75	14.75	13.75	13.50	13.50	13.25	14.10
1991	12.75	11.75	11.25	10.75	10.25	9.75	9.75	9.75	9.50	8.75	8.75	8.00	10.17
1992	8.00	7.50	7.50	8.25	7.75	7.25	7.00	6.50	6.50	8.25	9.75	9.00	7.77
1993	7.25	6.75	6.50	6.00	6.00	6.00							6.42

Table 1

10 YEAR ONTARIO AVERAGE HOG & FEED PRICES					
Year	Feeder Pig \$/kg live	Market Hog \$/100 kg dressed	Corn \$/tonne	48% Soybean Meal \$/tonne	G-F Hog Premix \$/tonne
1983	2.09	156.32	139.80	353.39	569.99
1984	2.09	160.12	160.74	318.70	493.92
1985	2.07	151.03	134.51	255.98	490.61
1986	2.71	179.39	110.90	305.32	503.62
1987	2.58	175.36	93.70	320.51	482.67
1988	1.79	139.05	133.80	393.04	514.17
1989	1.65	137.98	137.30	343.30	552.23
1990	2.36	161.20	124.30	271.30	560.30
1991	2.07	145.53	103.40	270.00	601.33
1992	1.70	131.20	113.60	279.50	728.80
Avg.	2.11	153.72	125.21	311.10	549.76

Source: O.M.A.F. Pork News and Views

Feeder Pig Prices - Average annual pooled price for feeder pigs in Southwestern Ontario, based on a 25 kg feeder pig. Pigs meeting specific genetic qualifications may demand a 5% increase in price.

Market Hog Prices - Average annual pooled price for market hogs, based on 100 index, provided by Ontario Pork.

Corn - is valued at the price grain dealers are paying for dry corn, F.O.B. the farm in the London area. Prices are presently obtained from DePutter Publishing Ltd., London.

48% Soybean Meal - Prices are F.O.B. Hamilton, bulk wholesale prices, plus \$20.00/tonne freight to the London area. Prices are obtained from O.M.A.F., Farm Market News, Ridgeway.

G-F Hog Premix - Prices are feed manufacturer selling prices in Southwestern Ontario.

Table 2

*10 YEAR ONTARIO AVERAGE RETURNS TO LABOUR PER HOG MARKETING AND INTEREST RATES				
Year	Feeder Pig	Farrow to Finish	Finish	Prime Interest Rate %
1983	4.99	13.11	-11.26	11.29
1984	3.50	5.12	2.61	12.11
1985	6.72	13.21	2.61	10.65
*1986	22.52	40.10	18.07	10.56
1987	23.34	43.12	11.67	9.56
1988	4.29	4.87	-11.05	10.75
1989	0.84	0.30	- 0.81	13.23
1990	21.05	31.57	7.07	12.43
1991	14.94	28.21	3.42	10.17
1992	3.76	11.27	3.93	7.75
Avg.	10.60	19.09	2.63	10.85

* Returns since 1986 do not include Tripartite Stabilization premiums or payouts.

Source: Pork News and Views

Swine Tripartite Stabilization Program

During the period 1986-1992, the average return to labour per hog marketed was \$22.78 in Ontario farrow to finish operations. During the same period, the return to labour, including tripartite payouts, less premiums, was \$29.54 in farrow to finish operations, an improvement in returns of 30%. The Swine Tripartite Stabilization Program has done a reasonably good job of improving returns when they were extremely low, due to low hog prices.

How the O.M.A.F. Swine Budget is Calculated

GENERAL

There is no recognized universal method of calculating pork production costs and returns. The Ontario Ministry of Agriculture and Food has developed a method to determine pork production costs and returns in Ontario. This method is constantly being revised and updated through consultation with Ontario pork producers and agri-business associated with the pork industry. It is generally agreed that the O.M.A.F. budget fairly assesses pork production costs and returns in Ontario. It should be recognized that pork production costs and returns in Ontario vary considerably from farm to farm. The O.M.A.F. swine budget appears in the O.M.A.F. newsletter, Pork News and Views, which is distributed to pork producers and agri-business six times per year. The market summary that appears on the back page of the budget provides calculated monthly returns in the three main commercial pork enterprises. The following provides details on how the budget is calculated.

A. Feeder Pig Enterprise Budget - 180 sows - Per Sow Income

Income:

It is assumed that the feeder pig enterprise is a 180 sow enterprise, marketing 20 feeder pigs/sow/year at a weight of 25 kg. The feeder pig price is the average monthly pooled price for feeder pigs in Southwestern Ontario.

Operating or Cash Costs:

(1) Feed

Most Ontario pork enterprises are land based, growing and processing the majority of their feed requirements on the farm. Corn is the major grain source used in pork production in Ontario. Corn is combined with 48% soybean meal and/or roasted soybeans and a vitamin, mineral and trace mineral premix to produce a complete swine ration on the farm. Some pork producers may combine a concentrate or supplement with corn to produce a complete swine ration on the farm.

Sow and Boar Feed Requirements

(Assume 2.4 litters produced/sow/year.)

Gestation period - 115 days x 2.4 x 2.5 kg/day	690
Lactation period - 28 days x 2.4 x 6.75 kg/day	454
Weaning to breeding - 7 days x 2.4 x 4.50 kg/day	76
Boar Feed - assume 3 kg/day or 1095 kg ÷ 20 sows	<u>55</u>
Total feed/sow kg	1275

NOTE: feed/sow will vary depending on weight of sow, barn temperatures and litter size.

Sow Rations

Ideally, a gestating sow should be fed a 14% crude protein ration containing approximately 0.65% lysine. A nursing sow should be fed a 16% crude protein ration containing .80% lysine. On some farms, a 15% dual purpose sow ration is used.

15% Dual Purpose Sow Ration

785 kg corn
165 kg 48% soybean meal
<u>50 kg Gesta-Lact Sow Premix</u>
1000 kg

Pig Starter Feeds

(Weaning to 25 kg)

The age at which pigs are weaned will have a bearing on the type of starter feed used. While there is some three week weaning prevalent in Ontario, many producers wean at four weeks of age. To accommodate the multitude of feeds available on the market, a prestarter and starter feed is used. It is assumed that these feeds will be purchased as a complete feed from a feed manufacturer.

Pig Prestarter

Normally contains a high percentage of milk powders and/or whey, cooked cereal grains, fish meal and no soybean meal. Used primarily as the first feed at weaning. It is assumed that each pig marketed will consume approximately 1.5 kg or 20 x 1.5 kg or 30 kg of pig prestarter/sow/year.

Pig Starter

Normally, 18% crude protein, with 1.0% lysine levels, contains some milk, fish and vegetable proteins and fed after pigs reach an age of five weeks. It is assumed that each pig marketed will consume approximately 28 kg of starter or 28 x 20 or 560 kg/sow/year. Pig starter may be produced on the farm.

(2) Services

Veterinary and Animal Health Products - Some producers have a herd health program with their local veterinarian. This may cost \$6.00 to 10.00/sow/year. Animal health products may include vaccines for sows and wormers. Animal health products for piglets may include injectable iron, vaccines, etc. (Assume \$25.00/sow)

Marketing Feeder Pigs and Cull Sows

Selling commission for 20 feeder pigs at \$1.30/pig	26.00
Risk fund 0.00175×42.50 (1992 average value) or $.07 \times 20$	1.40
Marketing cull sows - marketing $4.50 + \text{freight } 5.00 \div 3 \text{ yr.}$	3.17
Marketing cull boar - marketing $6.00 + \text{freight } 5.00 \div 2 \text{ yr.} \div 20$	<u>.28</u>
Total	30.85

The current selling commission is \$1.30/feeder pig. A risk fund to allow for replacement value of feeder pigs during first 48 hours is assessed at \$1.48/sow. A marketing and freight charge is allocated for cull sows and cull boars.

Electricity and Telephone - The 1991 Ontario Farm Management Analysis Project reveals an average cost of \$70.16/sow for electricity and telephone on 82 farrow to finish swine farms. Assume approximately 60% of cost or \$42.00 is allocated to the feeder pig enterprise and the balance or approximately \$1.50/market hog is allocated to the finishing enterprise.

(3) Interest on Feed and Services

Most pork producers have an operating loan to cover feed purchases and services costs. Most banks charge prime + 1% on these operating loans. In a feeder pig enterprise, at least two litters are marketed per year. Therefore, half of the feed and service costs are charged for a period of 1/2 a year.

Capital Costs or Overhead - Sow Ownership

(1) Depreciation - The original value of the sow is valued at two times the value of a market hog. Replacement gilts may be purchased or produced within a herd. There is a trend, to purchase good quality Yorkshire Landrace replacement gilts. The salvage value of the cull sows is based on a sow weight of 155 kg dressed and the average monthly price obtained from Ontario Pork.

(2) Interest on Investment - A producer may have in excess of \$40,000 invested in sow inventories in a 180 sow system. If this money were invested, it would be providing a return. The return on investment is based on the average sow value and the Canada Savings Bond interest rates.

(3) Death Loss - A 5.0% death loss is considered average in most sow herds. Traditionally losses have been higher in hot summer months.

(4) Boar Ownership - The same procedure is used for calculating boar ownership that was used in calculating sow ownership. This normally is approximately 3.0% of the average boar value. By using this procedure the boar ownership will only use two lines of the budget page and will allow the total budget to be printed on one page.

(5) and (6) Housing and Equipment - Swine Housing and Equipment costs are calculated by Franklin Kains, Agricultural Engineer, Waterloo Region, Ontario Ministry of Agriculture and Food. For details, see Appendix "A", page 15.

To cover overhead costs such as depreciation, interest on investment, repair and maintenance, taxes and insurance, we charge 12.00% on buildings and 15.67% on equipment. (For details see Appendix "C", page 20). We assume the average swine barn and equipment may not be new, so charge only 50% of these costs against the sow operation.

TOTAL COSTS - Operating costs + capital costs = costs per sow ÷ 20 feeder pigs ÷ 25 kg = cost per kg.

NET RETURNS TO OWNER'S LABOUR, RISK AND MANAGEMENT - Income less total costs equals net returns/sow \div 20 = returns/feeder pig.

B. Finishing Section Budget or Farrow to Finish Enterprise
(3600 Hogs/Year) Income Per Hog

Income:

Market hogs are sold on a dressed weight or carcass basis. At present, the average Ontario hog carcass weighs 82 kg. The price is the average pooled price for the month, obtained from Ontario Pork. This price is based on 100 index. At present, all hogs are graded and assessed an index. The present average index is 105. This increases the average value of a hog by 5%.

Operating Costs or Cash Costs

(1) **Feed** - In Ontario, on the average it takes 100 days for hogs to grow from 25 kg to 105 kg liveweight.

Swine Consumption and Feed Conversion (25 kg - 105 kg)

<u>Period</u>	<u>A.D.G.</u>	<u>Gain</u>	<u>Acc. Gain</u>	<u>Feed Conversion</u>	<u>Consumption</u>	<u>Acc. Feed</u>
1st 30 days	.65	20	45	2.8	56	56
2nd 30 days	.75	23	68	3.0	69	125
3rd 30 days	.90	27	95	3.6	97	222
4th 10 days	1.05	10	105	3.9	39	261
Averages	.80			3.26		

Feed for Finishing is Costed at Prevailing Prices as Follows

4 months prior to marketing	56 kg Hog Grower
3 months prior to marketing	69 kg Hog Grower
2 months prior to marketing	97 kg Hog Grower
10 days prior to marketing	39 lbs. Hog Grower
Total ...	261 kg Hog Grower

Feed is priced at the prevailing price when feed is consumed.

Finishing Rations

Finishing rations have changed dramatically in recent years. Computer models are used to feed finishing animals to meet their genetic potential.

Ideally, a 16% - 17% crude protein ration, containing 0.80% to 0.90% lysine, can be fed from 25 kg to 50 kg. A 15% - 16% crude protein ration containing .65% - .75% lysine can be fed from 50 kg to 105 kg. On some farms a 16% grower ration will be fed from 25 kg to 105 kg.

16% Hog Grower

765 kg corn
195 kg 48% soybean meal
40 kg G-F hog premix
1000 kg

(2) Services

Veterinary and Animal Health Products - Generally, veterinary costs in finishing operations are minimal if you start with a healthy feeder pig. (Assume \$2.00/pig.)

Assembling Marketing - There is a trend in Ontario to move hogs directly from the farm to the packing plant. A \$2.00/hog assembling charge and a \$2.25/hog marketing charge (Ontario Pork current charge) has been assessed, for a total charge of \$4.25.

Electricity and Telephone - Ontario Farm Management Analysis would suggest a charge of \$1.50/market hog (see page 8 for more details).

(3) Feeder Pig Cost

Feeder pigs are valued at the cost of production four months prior to calculation date, less \$1.30/feeder pig; the present commission for selling feeder pigs. In farrow to finish enterprises, the feeder pig is produced within the system and transferred to the G-F section at a weight of approximately 25 kg.

(4) Death Loss

Average value of a feeder pig is original cost of production and market value \div 2. It is assumed the average death loss is a well operated G-F enterprise will be 2% or less.

(5) Interest on Feed, Services, Feeder Pig Cost and Death Loss

Normally, feed services, etc. is paid from operating loan account. The cost of this money is normally prime + 1%. It is assumed that the money will be required for 1/3 of a year.

Capital Costs or Overhead Costs

We charge 12.00% on housing and 15.67% on equipment to cover overhead costs. It is assumed that 3600 market hogs will be marketed annually. If new facilities are used, these capital cost figures should be doubled.

Total Costs Per Hog Marketed:

Operating costs plus capital costs = Total Costs ÷ 82 kg = Cost per 100 kg

Net Returns to Owner's Labour, Risk and Management Per Hog Marketed:

Income less Total Costs.

C. Finishing Budget (Purchased Feeder Pigs) Enterprise
3600 Hogs/Year - Income Per Hog

Income

Similar to income in Finishing Section Budget of Farrow to Finish Enterprise.

Operating Costs

Are similar to Finishing Section Budget of Farrow to Finish Enterprise with the exception of the feeder pig cost. The feeder pig is priced at the selling price of feeder pigs four months prior to selling of the market hog. Example: The market hog sold in May 1993 was a 25 kg feeder pig in February, which sold for \$58.25 + \$1.20 commission + \$2.00/hog transportation or \$61.45.

Capital Costs

Are similar to the Finishing Section of Farrow to Finish operation.

Operating and Capital Costs

Net returns = Income - Total Costs.

Summary of Pork Production Costs and Returns:

Return to Labour/Hog

This figure indicates the return to labour, risk and management per hog marketed in a feeder pig, farrow to finish and finishing operation.

Operating Costs

The operating, or cash costs, cover items such as feed, services and interest. The total operating costs are divided by 20 (feeder pigs produced) and then divided by 25 kg (weight of feeder pigs). In finishing operations the operating cost is divided by .82 or the carcass weight to provide a cost per 100 kg dressed.

Capital Costs

Includes depreciation, interest on investment and death loss on animals. Includes also overhead costs on buildings and equipment.

Break-Even Without Labour Charge

By adding operating and capital costs for each enterprise, a break-even is determined. When prices are extremely low, if a producer is covering operating costs and making some contribution to capital costs, they should normally continue production.

Break-Even With a Labour Charge

A labour charge is assessed against each enterprise based on the average industrial weekly wage in Canada. This wage appears in the Financial Post, under Economic Update.

It is assumed that a 180 sow feeder pig operation requires 1 person unit, a 180 sow farrow to finish operation requires 1.5 person units, and a 3600 hog annual finishing operation requires .75 person units. Average industrial weekly wage March 1993 was \$559.79. The following wages are allocated per enterprise:

- (A) 180 Sow Feeder Pig Enterprise:
$$\frac{559.79 \times 52 \times 1.0}{3600} = \frac{8.09}{25 \text{ kg}} = \$.32/\text{kg} \text{ or } \$8.09/\text{feeder pig}$$
- (B) 180 Sow Farrow to Finish Enterprise:
$$\frac{559.79 \times 52 \times 1.5}{(3600 \times 82 \text{ kg}) \text{ or } 295,200 \text{ kg of pork}} = \$15.00/100 \text{ kg dressed or } \$12.30/\text{market hog}$$
- (C) 3600 Market Hogs Marketed Annually
$$\frac{559.79 \times 52 \times .75}{(3600 \times 82 \text{ kg}) \text{ or } 295,200 \text{ kg of pork}} = \$7.00/100 \text{ kg dressed or } \$5.74/\text{market hog}$$

Estimated Net Return to Labour

In a feeder pig or farrow to finish enterprise, normally the more pigs marketed/sow/year, the greater the returns. Sow feed costs and capital costs for buildings and equipment are allocated to more animals, reducing the cost per animal marketed and increasing the returns to labour.

Projected Returns Hog Finishing Enterprise

The Chicago Mercantile Hog Futures Market is used to project what hog prices may be four months in the future.

On June 1, 1993, July 1993 Hog Futures closed at \$49.27 U.S.

Table 3. Chicago Mercantile - Hog Futures

	Open	High	Low	Settle	Chg.
June	51.55	51.65	51.12	51.20	-.17
July	49.65	49.85	49.10	49.27	-.38
August	47.65	47.85	46.50	47.02	-.45
October	42.90	42.90	42.10	42.20	-.37
December	43.70	44.00	43.20	43.30	-.37
February	44.20	44.20	43.65	43.65	-.32

- London Free Press

Table 4. Calendar & Futures Contract Month for Hogs

<u>Calendar Month</u>	<u>Contract Month</u>
Dec. Jan.	Feb.
Feb. Mar.	Apr.
Apr. May	June
June	July
July	Aug.
Aug. Sept.	Oct.
Oct. Nov.	Dec.

*To convert to an Ontario Dressed Equivalent Basis, the following calculations are made:

- (1) To convert from U.S. Live to Ontario Dressed, divide by .80 (the average Ontario hog yield is 80%).
- (2) The Ontario price is quoted basis 100 index, yet the average Ontario producer receives a 105 index. Divide by 1.05 to bring the U.S. price down to our average price.
- (3) The majority of U.S. hogs are priced plant delivered. To bring their price down by the Ontario average delivery costs of \$1.22 per cwt., this is accomplished by subtracting \$1.22 from the U.S. price.
- (4) Rate of exchange - The U.S. dollar has been worth more than the Canadian dollar. On June 1, 1993, the U.S. dollar was worth \$1.2910, or approximately 29% more than the Canadian dollar.

Projected Costs

Feeder pig, feed, services and capital costs are costed at current prices. This gives the producer an idea what his returns may be at market time.

Market Summary

Market hog and feeder pig prices and margins in various hog enterprises are provided as a guideline for what has happened in the past. Past corn, soybean meal and prime interest rates are also provided.

APPENDIX "A"

1993 SWINE HOUSING AND EQUIPMENT COSTS FARROW-TO-FINISH 8 LITTERS PER WEEK

**Franklin Kains, P.Eng.,
Swine Housing Specialist,
Ontario Ministry of Agriculture and Food, Waterloo**

The following are the costs for a new swine complex with the following features:

1. To generate 8 litters per week, the sow herd size is estimated to be 180 sows. In addition there is accommodation for 8 - 10 boars and up to 20 replacement gilts.
2. To achieve maximum performance, the 5 farrowing rooms, 6 weaner rooms and 7 1/2 finishing rooms are operated all-in/all-out for disease control.
3. There is no feed preparation or long term feed storage included with this complex.
4. All ventilation taken from attic which has an insulated roof to reduce summer heat gain.

A more complete breakdown on the costs follows the summary below. On the last page are 3 sketches of the layouts of the barns.

SUMMARY OF COSTS

	Total Cost	Cost/Sow
Dry sow/breeding	\$147,235	\$818
Farrowing/weaning	215,555	1,199
Finishing	343,275	1,907
Miscellaneous	75,000	417
Totals	\$781,065	\$4,341

<u>DESCRIPTION</u>	<u>COST</u>
--------------------	-------------

1. BREEDING GESTATION BARN

- 120 sow stalls, 22 group sow pens, 8 boar pens, 2 breeding pens
- manure channels 2' deep stop and flow

Costs:	\$
43'2" x 118'0" shell of insulated concrete sandwich wall c/w site prep.	70,270
floors and gutters	17,550
interior partition with doors	1,780
concrete slats, 2240 sq.ft.	9,860
120 sow stalls c/w pvc trough	22,630
partitioning - concrete wall c/w spindle gates	6,625
ventilation	8,230
electrical	5,920
plumbing including 28 nipple drinkers in breeding room	2,570
4 tonne feed bin, with auger	1,900
 TOTAL COST	 \$147,335
Cost per sow	818
Cost per sq. ft.	29

2. FARROWING/WEANLING BARN

- 5 farrowing rooms with 8 crates per room
- 6 weanling rooms with 8 pens each, all-in/all-out for pigs 4 to 10 wks. old
- manure channels 2' deep stop and flow gutters

Costs:	
50'4" x 113'4" shell of insulated concrete sandwich wall c/w site prep.. . .	\$71,150
concrete floors and gutters	22,700
interior walls and doors	14,700
flooring for farrowing: 40 - 5' x 7' plastic coated, welded wire panels	15,950
flooring for weaners: 1584 sq.ft. of fully slatted plastic flooring	12,225
40 farrowing crates c/w penning, feeders, heat lamps	21,340
nursery room penning and feeders	17,670
ventilation for farrowing c/w heating	9,820
ventilation for weaner rooms c/w heating	12,315
electrical	9,450
plumbing	4,435
2 - 4 tonne feed bins with augers	3,800
 TOTAL COST	 \$215,555
Cost per sow	1,199
Cost per square foot	38

3. FINISHING BARN

- 7 finishing rooms each with 8 - 20' x 8'4" pens
- 1 shipping room with 4 - 20' x 8'4" pens
- floors fully slatted with 2' deep stop and flow gutters

Costs:	\$
174'8" x 72'4" shell of insulated concrete sandwich wall c/w site prep. . . .	148,690
Concrete floors with gutters	51,800
Slats, 9600 sq. ft.	42,150
Interior walls and doors	8,700
Pen partitions, gates, posts	16,620
Plumbing	1,550
Wiring	10,150
Ventilation	20,985
Heating	5,485
Feeders	17,755
Automatic feeding system to rooms including 14 tonne feed tank	19,390
 TOTAL COST	 343,275
Cost per sow	1,907
Cost per square foot	27
Cost per pig housed	306

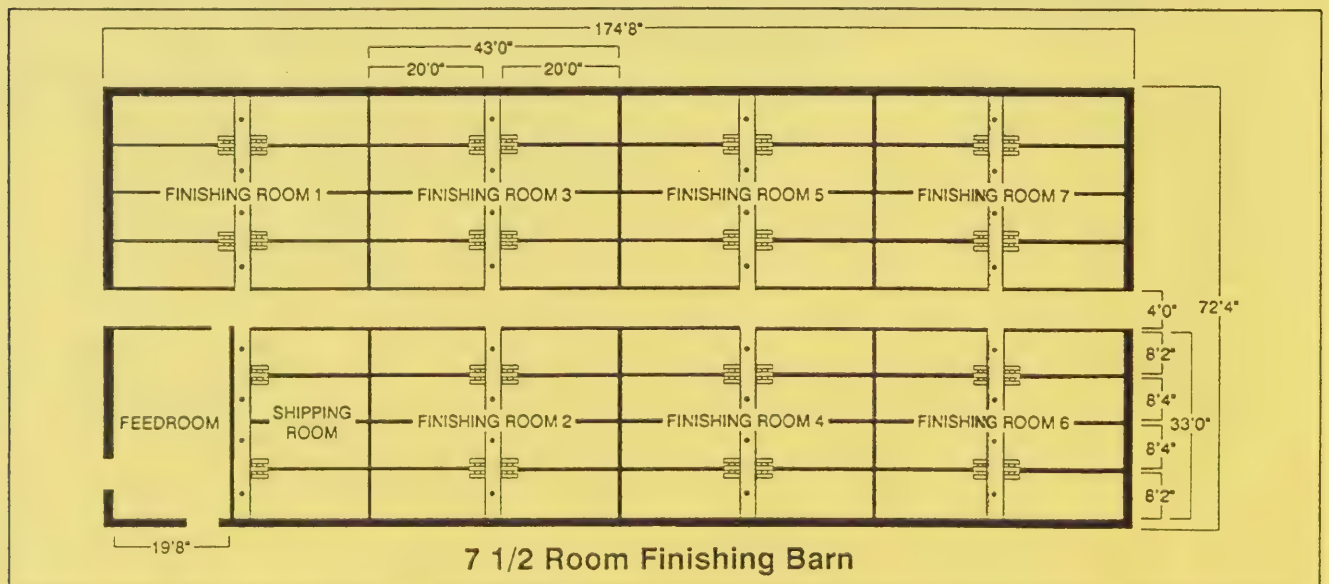
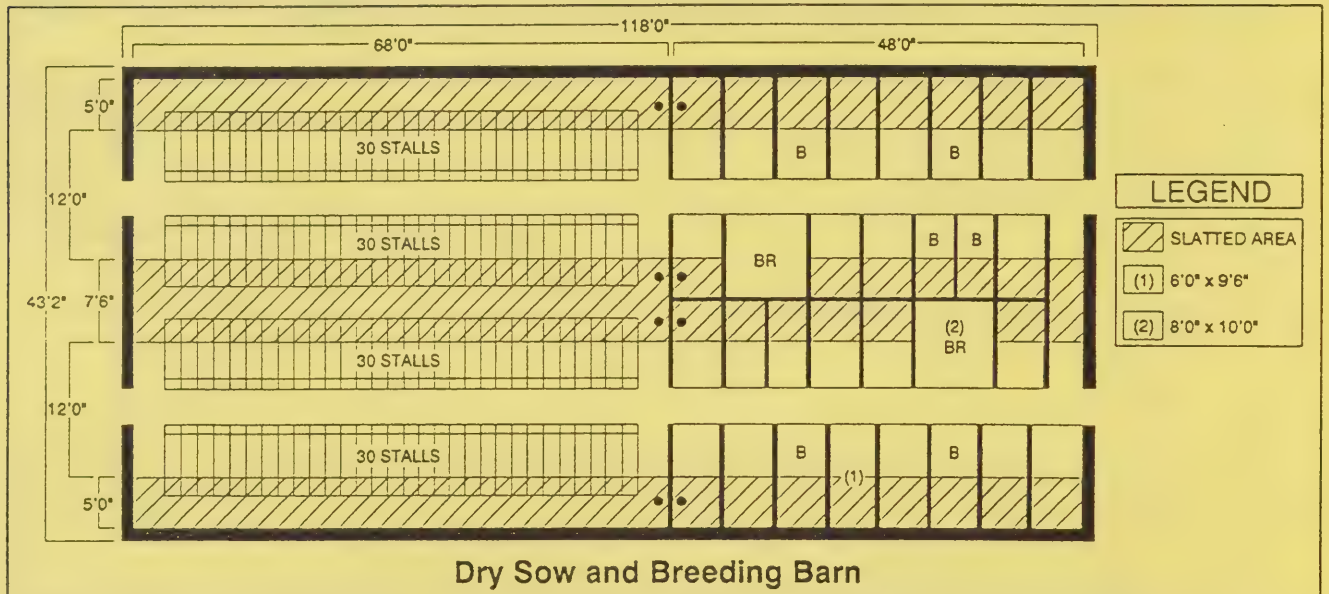
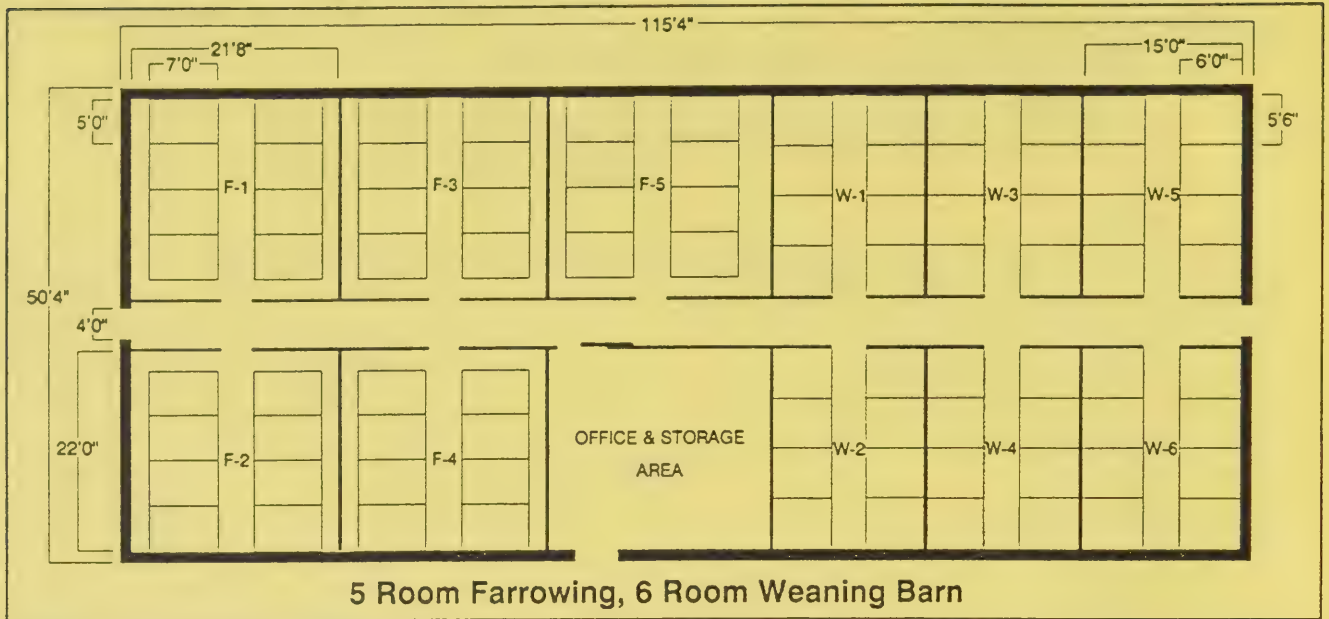
4. MISCELLANEOUS ITEMS

Costs:

Manure storage, 95' diam. x 14' open top tank (530,000 gal. cap.)	46,000
Office, shower, storage area in farrowing barn	8,000
Pressure washer, centrally located with associated plumbing	7,000
Water supply, 150' deep well c/w submersible pump	8,000
Hydro service from road to barn	6,000
 TOTAL COST	 75,000
Cost per sow	417

May 3, 1993

180 SOW FARROW TO FINISH COMPLEX



APPENDIX "B"
SWINE HOUSING AND EQUIPMENT COSTS, Revised 1993

1. <u>SWINE FARROWING OPERATION</u> (based on 180 Sow Operation)			
	<u>Facility</u>	<u>Building Costs</u>	<u>Equipment Costs</u>
a)	Breeding-Gestating Barn	\$ 106,085.00	\$ 41,250.00
b)	Farrowing Barn		
	All-in/All-out Farrowing & Weaner Rooms	108,550.00	107,005.00
c)	Feed and Manure Storage		
	(i) 24 x 100 sealed H.M.C. concrete silo air bag and positive sweep auger silo cost \$95,000 x 28%	26,600.00	
	(ii) Feed room & office 30 x 16 (\$5000 x 28%)	1,400.00	
	(iii) Feed Processing: Grinder mixer (\$22,000 x 28%)		6,160.00
	(iv) Bulk bins & Augers - Equivalent Costs included in building & equipment costs		
	(v) Liquid Manure tank 30% of 530,000 gal. tank or 159,000 gal. x \$46,000.00	13,800.00	
	(vi) Liquid Manure Pump 30% x 5700.00		1,710.00
	(vii) Liquid Manure, 3000 gal. spreader 30% x 11,300.00		3,390.00
d)	Water, Pressure Washer and Hydro Service		
	(i) Water 150' well x 50% of cost \$8000.00		4,000.00
	(ii) Pressure Washer 50% of cost \$7000.00		3,500.00
	(iii) Hydro service x 50% of cost \$6000.00		3,000.00
	TOTAL COSTS	\$ 256,435.00	\$ 170,015.00
2. <u>FINISHING HOG OPERATION (3600/YEAR ANNUAL OUTPUT)</u>			
	<u>Facility</u>	<u>Building Costs</u>	<u>Equipment Costs</u>
a)	Finishing Barn (All-in/All-out)	\$ 251,340.00	\$ 91,935.00
b)	Feed and Manure Storage		
	(i) 24 x 100 sealed concrete silo \$95,000 x 72%	68,400.00	
	(ii) Feed room & office 72% x \$5000.00	3,600.00	
	(iii) Feed processing - grinder mixer \$22,000 x 72%		15,840.00
	(iv) Feed Processing - Grinder mixer \$22,000 x 72% Bulk bins & Augers - Equivalent costs included in building & equipment costs		
	(iv) Liquid manure tank 70% of 530,000 gal. tank or 371,000 gal. x 46,000.00	32,200.00	
	(v) Liquid Manure Pump 70% x 5,700.00		4,104.00
	(vi) Liquid Manure, 3000 gal. spreader 70% x 11,300.00		8,136.00
c)	Water, Pressure Washer, Hydro Services		
	(i) Water 150' well x 50% of cost \$8,000.00		4,000.00
	(ii) Pressure Washer 50% of cost \$7,000.00		3,500.00
	(iii) Hydro Service x 50% of cost \$6,000.00		3,000.00
	TOTAL COSTS	\$ 355,540.00	\$ 130,175.00

3. *CALCULATED BUILDING AND EQUIPMENT COSTS PER ANIMAL

$$(a) \text{ Building Costs/Sow} = 12.00\% \times 256,435.00 = \frac{\$30,772.20}{180} \times 50\% = \$ 85.48$$

$$(b) \text{ Equipment Costs/Sow} = 15.67\% \times \$170,015.00 = \frac{\$26,664.14}{180} \times 50\% = \$ 74.07$$

$$(c) \text{ Building Costs/Finishing Hog} = 12.00\% \times 355,540.00 = \frac{\$42,664.80}{3600} \\ \times 50\% = 5.93$$

$$(d) \text{ Equipment Costs/Finishing Hog} = 15.67\% \times 130,175.00 = \frac{\$17,969.57}{3600} \\ \times 50\% = \$2.84$$

NOTE - It is assumed that average Ontario swine buildings and equipment are 50% depreciated. If new buildings and equipment are used, these figures should be doubled.

APPENDIX "C"

OVERHEAD COST ESTIMATES AS A % OF NEW COST

<u>Overhead Factor</u>	<u>Swine Buildings %</u>	<u>Swine Equipment %</u>
*Depreciation	5.00	6.67
**Interest	3.00	3.00
Repair and Maintenance	2.00	5.00
Taxes	1.00	0.00
Insurance	<u>1.00</u>	<u>1.00</u>
	<u>12.00</u>	<u>15.67</u>

* Swine buildings are depreciated over 20 years or 5.00%/year and swine equipment is depreciated over 15 years or 6.67%/year.

** 6% on the average investment or 3% on the initial cost.

SWINE BUDGET CHANGES

Changes may be made in monthly budgets in Pork News and Views to reflect current costs. The general format of the swine budget, however, should not change significantly.

INTERPRETING O.M.A.F. SWINE BUDGET

If you require additional information on calculating pork production costs and returns, please contact your local Ontario Ministry of Agriculture and Food office.

CALCULATING PRODUCTION COSTS & RETURNS

CH20N
AF
- C16

IN YOUR PORK ENTERPRISE

- Feeder Pig
- Farrow to Finish
- Finishing

SEPTEMBER 1986



(REPLACES JANUARY 1984)

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TYPES OF SWINE ENTERPRISES IN ONTARIO

GENERAL

In commercial pork production in Ontario there are three main types of swine enterprises - Feeder Pig, Farrow to Finish and Finishing. In Ontario, there are approximately 200 swine breeding enterprises that sell boars and/or gilts to the commercial pork industry. The majority of Ontario swine farms are land based. New entrants into the pork industry may not initially be land based due to the high capitalization costs. Many specialized swine enterprises today with a land base hire custom operators to do their field work. This allows the specialized pork producer to have minimal costs tied up in farm machinery and allows the producer to devote full time to his or her swine enterprise.

1. FEEDER PIG ENTERPRISE

In this enterprise, a sow herd is maintained and the offspring, feeder pigs or weaner pigs are sold at a liveweight of approximately 25 kgs (55 lbs.) We use a weight of 50 lbs. In our budget, we assume that the enterprise is a 100 sow enterprise selling 16 feeder pigs per sow per year. There are some well managed operations in Ontario that are selling 18 to 20 or more feeder pigs/sow/year.

If modern buildings, equipment and management techniques are employed, a 100 sow feeder pig enterprise can be operated by one man (1.0 man units). This enterprise would require approximately 5500 bushels of dry corn for the grain portion of the ration. The minimum land base, 20 hectares (50 acres) would provide adequate land for manure disposal. The preferred land base to produce the grain requirements would be 30 hectares (75 acres).

2. FARROW TO FINISH ENTERPRISE

In this enterprise, a sow herd is maintained and the offspring are fed to a market weight of 100 kgs (220 lbs.) A 100 sow farrow to finish enterprise would require approximately 20,000 bushels of dry corn. The minimum land base for manure disposal would be 60 hectares (150 acres). The preferred land base to produce the grain corn requirement would be approximately 80 hectares (200 acres). If modern buildings, equipment and management techniques are employed, a 100 sow farrow to finish operation would be a man and wife operation (1.5 man units). Our buildings, feed and manure storages are sized to accommodate 1800 market hogs annually to accommodate the above average producer. In our budget, we assume the average producer will market 1600 market hogs annually.

3. FINISHING ENTERPRISE

In this enterprise, feeder pigs are purchased at a liveweight of approximately 20 kgs (55 lbs.) and are marketed at a liveweight of 100 kgs (220 lbs.) In our budget, we assume 1600 market hogs will be sold annually. These feeder pigs can be purchased in three groups of 533 and the group marketed in 120 days. This type of enterprise is an all-in-all-out finishing enterprise. Feeder pigs may be purchased on a continuous basis to keep the barn operating at capacity. If modern buildings, equipment and management techniques are employed and 1600 hogs marketed annually, this would be an easy one man operation (.7 man units). This enterprise would require 14,400 bushels of dry corn to supply the grain portion of the ration or eight bushels of dry corn per hog marketed. The minimum land base for manure disposal would be 40 hectares (100 acres). The preferred land base to supply the grain corn requirement would be 60 hectares (150 acres).

SWINE BUDGET - AUGUST 1986

A. FEEDER PIG ENTERPRISE BUDGET - 100 SOWS - PER SOW

Your Costs

Income:

16 weaners @ 50 lbs. @ \$135.00/cwt = 67.50 x 16 \$1080.00

Operating or Cash Costs: (59%)

(1) Feed - Dry, Nursing and Boar Ration 2584 lbs. @ \$6.76/cwt \$174.68
 Pig Prestarter - 127 lbs. @ \$15.65/cwt 19.88
 Pig Starter - 960 lbs. @ \$7.89/cwt 75.74
 (2) Services - Vet and Medicine 30.00
 Marketing (sows and feeder pigs) 22.82
 Hydro (24.00) 24.00
 (3) Interest on Feed and Services - \$347.12 x 10.75 x .5 x .5 \$ 9.33 \$356.45

Capital Costs: - (41%) Sow Ownership, Buildings and Equipment

(1) Depreciation - $\frac{\text{Original Value} - \text{Salvage Value}}{\text{Number of Productive Years}} = \frac{\$354.80 - 310.33}{2.5} = 17.79$
 (2) Interest on Investment - $\$354.80 + \$310.33 \div 2 = \$332.57 \times 8.5 = 28.27$
 (3) Death Loss - Average Value $\$332.57 \times .05 = 16.63$
 (4) Boar Ownership - $\frac{\text{Original Value} + \text{Cull Value}}{2} \times 3\% = \frac{\$709.60 + \$265.40}{2} \times .03 = 14.63$
 (5) **Housing (16.10% x 126,560.00 \div 100 sows x 50%) 101.88
 (6) **Equipment (21.65% x 72,400.20 \div 100 sows x 50%) \$ 78.37 \$257.57
 TOTAL COST \$76.75/CWT based on 50 lb. feeder pig or \$38.38/feeder pig \$614.02
 NET RETURNS TO OWNERS LABOUR RISK AND MANAGEMENT = + 29.12/feeder pig \$465.98

B. FINISHING SECTION BUDGET OR FARROW TO FINISH ENTERPRISE-(1600 hogs/year) INCOME PER HOG

Income:

77.57 KG of Hog Dressed Weight @ \$2.2033 Kg x 103.8 index \$177.40

Operating Costs: - (90%)

(1) Feed - 578 lbs. @ \$7.67/CWT \$43.11
 (2) Services - Veterinary Medicine 2.00
 Marketing 3.37
 Hydro 1.00
 (3) Feeder Pig Cost - May 1/86 = \$39.57 - 1.00 38.57
 (4) Death Loss - Average Value = $\$177.40 + 38.57 \div 2 \times 3\% = 3.24$
 (5) Interest on Feed, Services, Feeder Pig Cost (91.29 x 10.75 x .33) 3.24 94.53

Capital Costs: - (10%)

(1) **Housing (16.10% x 121,440.00 \div 1600 x 50%) 6.11
 (2) **Equipment (21.65 x 65,939.80 \div 1600 x 50%) 4.46 10.57
 TOTAL COSTS PER HOG MARKETED 61.46/CWT based on 171 lb. carcass \$105.10
 NET RETURNS TO OWNERS LABOUR RISK AND MANAGEMENT PER HOG MARKETED \$+72.30

C. FINISHING BUDGET (PURCHASED FEEDER PIGS) ENTERPRISE - (1600 Hogs/Year) INCOME PER HOG

Income: - Similar to B

\$177.40

Operating Costs: - (90%) Feed \$43.11; Services \$6.37; Feeder Pig Cost May 1/86

52.50 + 2.96 = 55.46; Death Loss 3.49; Interest 3.85 (108.43 x 10.75 x .33) \$112.28

Capital Costs: - (10%) **Housing \$6.11; **Equipment \$4.46

10.57

TOTAL COSTS PER HOG MARKETED \$71.84/CWT based on a 171 lb. carcass 122.85

NET RETURNS TO OWNERS LABOUR RISK AND MANAGEMENT PER HOG MARKETED \$+54.55

**IF NEW BUILDINGS AND EQUIPMENT ARE USED THESE FIGURES SHOULD BE DOUBLED.

SUMMARY OF PORK PRODUCTION RETURNS AND COSTS

HOG ENTERPRISE	RETURN TO LABOUR/HOG	*OPERATING COSTS/CWT	*CAPITAL COSTS/CWT	*BREAK-EVEN COSTS/CWT	**BREAK-EVEN COST/CWT
A. Feeder Pig	+29.12	44.55	32.20	76.75	104.65
B. Farrow to Finish	+72.30	55.28	6.18	61.46	73.70
C. Finish	+54.55	65.66	6.18	71.84	77.55

*No labour charge included in costs

**Labour charge of \$429.34/week included in costs (May '86).

6.

PROJECTED NET RETURN TO LABOUR

1985 Average Input Costs and Returns

Pigs Marketed Per Sow Per Year

ENTERPRISE	16	18	20	22
Feeder Pig	\$10,944.00	\$18,900.00	\$27,000.00	\$35,200.00
Farrow - Finish	19,856.00	33,498.00	45,220.00	57,024.00

7. PROJECTED RETURNS HOG FINISHING ENTERPRISE - PER HOG MARKETED

*Projected Income:

Dec. '86 Futures (Aug. 28/86) $\$55.22 \div .79 \div 103.8 - 1.00 \times 1.3924 - 2.66$ (Basis) = $\$89.71/\text{CWT}$
 171 lbs. x $\$89.71/\text{cwt}$ \$153.40

*Projected Operating Costs:

(1) Feeder Pig - 50 lbs. x $\$135.00/\text{CWT} = \$67.50 + \$2.96$ \$70.46
 (2) Feed Cost - 578 lbs. x $\$7.46/\text{CWT}$ 43.11
 (3) Services - Vet., Mkting, Hydro (6.37), Death Loss (3.36), Int. (4.37) 14.10
*Projected Capital Costs: Housing and Equipment 10.57 138.24
NET RETURNS TO OWNERS, LABOUR RISK AND MANAGEMENT PER HOG MARKETED +15.16

*Please note: There is no guarantee that these projections will apply in December 1986.

8.

MARKET SUMMARY

Southwestern Ontario Feeder Pig Prices per lb. live (based on a 50 lb. Feeder Pig).

YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT	OCT.	NOV.	DEC.	AVERAGE
1984	.90	1.02	.86	1.14	.88	.88	.84	.88	.96	.90	.92	1.09	.95
1985	1.01	1.10	.99	.84	.86	.94	.82	.79	.84	.94	1.05	1.12	.94
1986	1.12	1.15	1.04	1.05	1.05	1.12	1.29	1.35					1.28

Ontario Market Hog Pool Prices Per Cwt. Dressed

1984	67.50	65.60	67.34	70.85	72.62	76.38	81.85	81.37	74.81	69.59	72.77	72.64	72.63
1985	72.41	73.17	68.99	59.31	62.32	68.18	71.34	67.09	64.85	68.54	71.94	71.37	68.51
1986	70.23	70.11	66.95	64.21	71.55	85.39	93.81	99.94					77.19

Net Returns per Hog Marketed to Owners Labour Risk and Management

Feeder Pig Enterprise

1984	2.14	7.33	-2.73	12.18	4.89	-2.15	-4.41	-1.10	2.06	4.73	5.28	14.24	3.50
1985	9.47	13.55	8.42	.51	2.36	6.07	-.11	-.20	1.93	8.58	14.17	15.83	6.72
1986	15.34	17.20	11.89	12.64	12.94	16.29	23.37	29.12					17.34

Farrow to Finish Enterprise

1984	-3.76	-5.38	-3.04	2.23	5.29	8.99	15.79	16.59	4.93	-.63	9.58	10.86	5.12
1985	20.94	21.12	14.50	-3.61	.33	11.78	16.25	10.81	7.14	15.05	22.47	21.78	13.21
1986	21.15	19.22	16.81	5.97	20.33	41.80	60.21	72.30					32.22

Finishing (Purchased Feeder Pigs) Enterprise

1984	8.28	6.14	-.11	1.29	-.94	-2.78	14.32	-.33	-3.76	-2.33	6.76	4.75	2.61
1985	10.66	10.48	4.43	-18.68	-19.01	-2.15	10.66	3.27	-4.34	10.11	11.16	14.70	2.61
1986	7.06	-.83	-5.10	-15.36	-2.85	+24.44	41.89	54.55					12.98

**Corn (Paying Price/cwt. by Feed Mills in London Area) (to convert to bushels x .56)

1984	6.79	6.70	7.23	7.82	8.00	8.27	8.27	8.04	8.57	5.84	5.91	6.07	7.29
1985	6.07	6.21	6.18	6.82	6.86	6.79	6.64	6.11	6.07	4.91	4.93	5.63	6.10
1986	5.71	5.61	5.46	5.57	5.30	5.46	5.07	4.55	4.46				5.24

**44% Soybean Meal (Price/cwt. Toronto Wholesale + 20.00/tonne freight

1984	15.02	14.09	14.52	14.60	14.00	13.98	13.30	11.98	12.07	11.61	11.95	11.08	13.18
1985	10.70	10.80	10.83	10.71	10.12	9.52	10.08	9.72	11.10	11.68	12.25	12.20	10.81
1986	12.76	12.96	13.02	12.00	13.24	13.16	13.30	13.58	14.04				13.12

**Commercial Banks - Prime Interest Rates

1984	11.00	11.00	11.00	11.50	11.50	12.00	13.30	13.50	13.00	13.00	12.50	12.00	12.11
1985	11.25	11.00	11.50	11.25	10.75	10.50	10.50	10.50	10.25	10.25	10.00	10.00	10.65
1986	10.50	11.50	13.00	12.00	10.50	10.25	10.25	9.75	9.75				10.83

**Please note: Corn, Soybean Meal and Interest Rates are based on 1st of month quotations.

5 YEAR MARKET SUMMARY

Southwestern Ontario Feeder Pig Prices per lb. live (based on a 50 lb. Feeder Pig)

YEAR	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	AVERAGE
1981	.99	.95	.82	.90	.88	.94	1.07	.85	.97	.96	.95	.96	.94
1982	.89	1.03	1.06	1.27	1.34	1.39	1.30	1.41	1.53	1.42	1.28	1.41	1.29
1983	1.45	1.53	1.33	1.17	1.11	.79	.61	.60	.67	.60	.62	.86	.95
1984	.90	1.02	.86	1.14	.88	.88	.84	.88	.96	.90	.92	1.09	.95
1985	1.01	1.10	.99	.84	.86	.94	.82	.79	.84	.94	1.05	1.12	.94

Ontario Market Hog Pool Prices Per Cwt. Dressed

1981	65.35	66.32	62.37	61.57	62.92	73.97	79.06	79.61	78.48	73.28	68.27	66.14	69.57
1982	66.71	68.74	73.37	78.86	89.06	93.37	93.13	95.61	95.59	88.06	78.64	81.92	83.05
1983	83.71	85.92	79.54	72.19	71.91	69.32	67.06	70.28	68.52	61.72	60.59	64.13	70.91
1984	67.50	65.60	67.34	70.85	72.62	76.38	81.85	81.37	74.81	69.59	72.77	72.64	72.63
1985	72.41	73.17	68.99	59.31	62.32	68.18	71.34	67.09	64.85	68.54	71.94	71.37	68.51

Net Returns per Hog Marketed to Owners Labour Risk and Management

Feeder Pig Enterprise

1981	11.68	6.50	5.27	-1.08	6.44	1.21	17.05	4.26	5.42	13.33	7.73	14.63	7.75
1982	6.20	10.67	15.25	24.77	22.18	29.02	32.54	20.73	34.89	31.64	28.18	26.36	23.54
1983	26.36	38.22	27.06	18.49	16.22	5.45	-9.86	-16.32	-9.34	-15.17	-14.67	-6.54	4.99
1984	2.14	7.33	-2.73	12.18	4.89	-2.15	-4.41	-1.10	2.06	4.73	5.28	14.24	3.50
1985	9.47	13.55	8.42	.51	2.36	6.07	-.11	-.20	1.93	8.58	14.17	15.33	6.72

Farrow to Finish Enterprise

1981	5.91	4.87	1.26	-4.45	-6.58	-2.81	21.37	17.85	27.91	19.58	7.45	5.75	8.18
1982	-1.86	22.83	16.20	30.23	38.08	54.86	60.60	59.62	60.73	53.30	35.55	35.56	38.81
1983	35.56	49.65	43.89	22.79	18.53	9.14	2.94	.93	5.43	-5.01	-16.59	-9.98	13.11
1984	-3.76	-5.38	-3.04	2.23	5.29	8.99	15.79	16.59	4.93	-.63	9.58	10.86	5.12
1985	20.94	21.12	14.50	-3.61	.33	11.78	16.25	10.81	7.14	15.05	22.47	21.78	13.21

Finishing (Purchased Feeder Pigs) Enterprise

1981	4.54	-4.34	14.99	-32.67	-20.50	-11.89	13.63	16.99	18.82	16.60	-12.71	-.47	-2.25
1982	-9.48	6.18	6.08	12.69	27.64	39.59	38.75	29.20	33.21	18.42	9.71	-5.26	17.23
1983	-5.26	12.34	8.24	-10.80	-13.09	-34.99	-29.42	-22.39	-15.49	-14.56	-9.99	3.44	-11.26
1984	8.28	6.14	-.11	1.29	-.94	-2.78	14.32	-.33	-3.76	-2.33	6.76	4.75	2.61
1985	10.66	10.48	4.43	-18.68	-19.01	-2.15	10.66	3.27	-4.34	10.11	11.16	14.70	2.61

**Corn (Paying Prices/cwt. F.O.B. Farms in London Area) (to convert to bushels x .56)

1981	7.11	7.00	7.05	7.23	6.91	6.95	6.63	6.86	6.23	5.11	5.14	4.86	6.42
1982	4.95	4.78	4.46	4.72	4.95	5.24	5.45	5.46	4.99	4.64	3.79	4.45	4.82
1983	4.55	4.79	4.99	5.82	5.98	6.64	7.20	7.32	7.38	7.63	6.93	6.82	6.34
1984	6.79	6.70	7.23	7.82	8.00	8.27	8.27	8.04	8.57	5.84	5.91	6.07	7.29
1985	6.07	6.21	6.18	6.82	6.86	6.79	6.64	6.11	6.07	4.91	4.93	5.63	6.10

**44% Soybean Meal (Price/cwt. Toronto Wholesale + 20.00/tonne freight

1981	15.70	14.79	14.40	14.67	14.53	14.75	13.48	14.53	14.09	13.03	12.68	12.26	14.08
1982	12.97	13.22	13.08	13.31	13.59	13.42	13.49	13.27	11.79	10.94	11.39	12.28	12.73
1983	12.57	12.80	12.40	14.51	13.55	14.13	14.10	13.82	16.43	15.83	15.86	15.00	14.25
1984	15.02	14.09	14.52	14.60	14.00	13.98	13.30	11.98	12.07	11.61	11.95	11.08	13.13
1985	10.70	10.80	10.83	10.71	10.12	9.52	10.08	9.72	11.10	11.68	12.25	12.20	10.61

**Commercial Banks - Prime Interest Rates

1981	18.25	18.25	18.25	17.75	18.50	20.00	20.00	21.75	22.75	21.25	20.00	17.25	19.50
1982	16.50	16.50	16.50	17.00	17.00	17.50	18.25	17.25	16.00	15.00	13.75	13.00	16.19
1983	12.50	12.00	11.50	11.50	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.29
1984	11.00	11.00	11.00	11.50	11.50	12.00	13.30	13.50	13.00	13.00	12.50	12.00	12.11
1985	11.25	11.00	11.50	11.25	10.75	10.50	10.50	10.50	10.25	10.25	10.00	10.00	10.65

**Please Note: Corn, Soybean Meal and Interest Rates are based on 1st of month quotations.

HOW THE SWINE FINANCIAL BUDGET IS CALCULATED

General:

Since the financial budget is only one page of the Pork News and Views Newsletter, we must condense the various calculations considerably. The following provides details how the various figures in the budget are obtained.

A. Feeder Pig Enterprise Budget - 100 Sows - Per Sow

Income:

It is assumed the pork producer will market 16 feeder pigs per sow per year. To survive in the 1980's, Ontario pork producers must produce a minimum of 16 pigs per sow per year. It is assumed the feeder pig will be sold at a weight of 50 lbs. The feeder pig price per lb. is the average monthly feeder pig price in Southwestern Ontario, for the month indicated on the budget sheet.

Operating Costs:

- (1) Feed - The majority of Ontario pork producers grow and process their own feed requirements on the farm. Corn is valued at the price grain traders are paying for dry corn, F.O.B. the farm in the London area. This is normally a price above the nearest corn futures month (Example: On Aug. 14/86, traders were paying \$.85/bu., above the December 1986 Futures which were \$1.72 + .85 or \$2.57/bu. or \$4.59/cwt.)* Soybean meal is costed at the bulk wholesale Hamilton price, plus freight to the London area. Prices are obtained from O.M.A.F. daily market reports. Vitamin-mineral premix prices are based on the current feed manufacturer's retail price. The following formulas (see O.M.A.F. factsheet Diets for Swine, for details) are used in feed cost.

<u>% In Ration</u>	<u>Swine Rations</u>			<u>14% Dry and</u>
	<u>18% Pig Starter</u>	<u>16% Hog Grower</u>	<u>14% Hog Finisher</u>	<u>Nursing Sow</u>
Corn	68.50	76.75		81.75
44% Soybean Meal	28.00	20.00	14.50	15.00
Vitamin Mineral Premix	3.50	3.25	3.00	3.25
Total	100.00	100.00	100.00	100.00

We assume the pig prestarter will be purchased and use current feed manufacturer's retail prices.

Feed Requirements Per Sow and Boar

Assume 2.3 litters/sow/year, five week weaning and a weaning to breeding interval of seven days.

Nursing period - 5 weeks x 2.3 = 11.50 weeks or 81 days @ 12 lbs/day	972 lbs.
Weaning to breeding interval - 7 days x 2.3 = 16 days @ 12 lbs/day	192 lbs.
Gestation period - 262 days (114 days x 2.3) @ 5 lbs/day	1310 lbs.
Boar Feed - assume 6 lbs/day or 2190 lbs./year, assume one boar will service 20 sows or 2190 lbs. ÷ 20	110 lbs.
Total Feed Per Sow and Boar	2584 lbs.

Pig Prestarter and Starter Requirement

- Assume 1 - 25 kilo (55 lb.) bag of Prestarter/litter x 2.3 litters	127 lbs.
- Assume 16 pigs/sow per year and 60 lbs. of starter/pig to 50 lbs.	960 lbs.

(2) Services:

Vet and Medicine - We assume a herd health program will be established with a local veterinarian. This may cost \$10.00 per sow or more. Iron, Injections, Vaccinations, etc., may cost \$20.00 per sow and litter/year.

Marketing (Sows and Feeder Pigs)

Selling Commission for 16 Feeder Pigs x 1.20	19.20
Risk Fund - .002% x 47.00 (1985 Weaner Price) = .09 x 16	1.44
Freight and Selling Commission on cull sows	2.18
TOTAL	22.82

We assume the selling commission on feeder pigs will be \$1.20 per feeder pig and a risk fund charge of .09/feeder pig. We have not assessed a freight charge against the seller of feeder pigs. The trend appears to be towards moving feeder pigs from the producer of same and the buyer is responsible for freight.

The Ontario Pork Producers' Marketing Board charges a marketing charge for selling sows similar to market hogs. The July 1986 sow price is \$1.54 Kg x 168 kg x 1.1% = \$2.85. We assume it will cost 1.00/cwt. dressed to get cull sows to assembly yards or \$3.70 per sow, or a total sow marketing charge of \$6.55. If we assume 1/3 of the sow herd is culled each year, the freight and selling commission equals \$6.55 ÷ 3 = \$2.18.

Hydro (24.00)

Some recent on-farm monitoring by Ontario Hydro indicates the hydro charge is approximately \$1.50/feeder pig or \$24.00/16 feeder pigs.

(3) Interest on Feed and Services:

Most pork producers have an operating loan to cover feed costs and services. The banks normally charge prime + 1% on operating loans. In a feeder pig operation, a minimum of two litters is marketed per year. Therefore 1/2 of the annual feed and service costs are charged per litter and the operating loan is charged for 1/2 a year.

CAPITAL COSTS - SOW OWNERSHIP

(1) Depreciation:

The original value of the sow is valued at two times the value of a market hog. The salvage value is the average monthly price that the O.P.P.M.B.

is selling sows for the month of the budget calculation. We assume the average sow will weigh 168 kg dressed.

(2) Interest on Investment:

The producer has a considerable amount of money tied up in sow inventories. If this money were invested in Canada Savings Bonds, it would provide a return on investment. The return is based on the average sow value and the Canada Savings Bond rate, which is revised annually, and normally announced in the month of October.

(3) Death Loss:

A 5% death loss can be expected in most sow herds.

(4) Boar Ownership:

The original value of the boar is valued at four times the value of a market hog. The salvage is the price the O.P.P.M.B. is paying for live boars. We estimate the average live boar weight is 204 kg and the average working life is two years.

Boar Ownership Costs July 1986:

$$(1) \text{ Depreciation} = \frac{\text{Original value} - \text{Salvage value}}{2} = \frac{666.08 - 244.78}{2} = 210.65$$

$$(2) \text{ Interest on Investment} = \frac{666.08 + 244.78}{2} = 455.43 \times 8.50 = 38.71$$

$$(3) \text{ Death Loss} = 455.43 \times 5\% = 22.77$$

$$\underline{\$272.13}$$

$$\text{Cost per Sow} = \frac{272.13}{20} = 13.61$$

$$\% \text{ of Average Boar Value} = \frac{13.61}{455.45} \times 100 = 3.0\%$$

Rather than make three calculations as space is limited on the budget page, we charge 3.0% of the average boar value against each sow. This will fairly represent boar costs.

(5) Housing and Equipment:

Swine Housing and Equipment costs are calculated annually by Franklin Kains, Agricultural Engineer, Waterloo Region, Ontario Ministry of Agriculture and Food. For details, see pages 13 to 15.

To cover overhead costs such as depreciation, interest on investment, repair and maintenance, taxes and insurance, we charge 16.10% on buildings and 22.15% on equipment. (For details see Appendix "C", page 18). We assume the average swine barn and equipment may not be new, so charge only 50% of these costs against the sow operation.

TOTAL COSTS - Operating costs + capital costs = costs per sow \div 16 feeder pigs \div 50 lbs. = cost per lb.

NET RETURNS TO OWNERS LABOUR RISK AND MANAGEMENT - Income less total costs \div 16 = returns per feeder pig.

B. Finishing Section Budget or Farrow to Finish Enterprise
(1600 hogs/year) - Income per Hog

Income:

Effective March 31, 1986 the Federal Hog Grading System was revised. Weight payment was changed from the Imperial System to Metric.

The weight used in the budget is the average Ontario carcass weight for the past year. The Index is the average Ontario Index for the past year. The price is the average pooled price for the month, obtained from the O.P.P.M.B.
Operating Costs:

- (1) Feed - In Ontario, on the average, it takes four months for hogs to grow from 50 lbs. to 225 lbs. live weight.

Swine Consumption and Feed Conversion (50 lbs. - 225 lbs.)

<u>Period</u>	<u>A.D.G.</u>	<u>GAIN</u>	<u>ACC. GAIN</u>	<u>FEED CONVERSION</u>	<u>CONSUMPTION</u>	<u>ACC.FEED</u>
1st 30 days	1.3	39	89	2.6	103	103
2nd 30 days	1.4	42	131	2.9	120	223
3rd 30 days	1.5	45	176	3.7	165	388
4th 30 days	1.6	49	225	3.9	190	578
Averages	1.5			3.3		

Feed for Finishing is Costed at Prevailing Prices as Follows

4 months prior to marketing	103 lbs. Hog Grower
3 months prior to marketing	120 lbs. Hog Grower
2 months prior to marketing	165 lbs. Hog Grower
1 month prior to marketing	190 lbs. Hog Grower
Total...	578 lbs. Hog Grower

Feed is priced at the prevailing price when feed is consumed.

- (2) Services:

Veterinary Medicine - Generally veterinary costs in the finishing operation are minimal. We assess a charge of \$2.00 per hog.

Marketing - We assess a \$1.70 charge (\$1.00 per cwt. dressed) to get the market hog to the assembly yards. The present O.P.P.M.B. marketing charge is 1.1% or approximately \$1.67 per hog at present. The total marketing charge is \$3.37 per hog. As marketing charges and prices change, this is reflected in the charge.

Hydro - Some recent monitoring by Ontario Hydro would indicate the hydro cost in a finishing barn would be approximately \$1.00/hog.

- (3) Feeder Cost:

Feeder pigs are valued at the cost of production four months prior to calculation date, less \$1.20 per feeder pig, the present commission for selling feeder pigs.

(4) Death Loss:

Average value = present value of a market hog plus value of weaner pig when transferred to finishing, divided by 2. It is assumed the death loss in finishing in a farrow to finish operation is 3%.

(5) Interest on Feed Services and Weaner Cost:

Many pork producers have an operating loan (prime + 1%) to cover services. We assume this money will be required for four months or 1/3 of a year.

Capital Costs:

We charge 16.10% on housing and 22.15% on equipment to cover overhead costs. It is assumed that 1600 market hogs will be marketed annually. If new facilities are used, these capital cost figures should be doubled.

Total Costs Per Hog Marketed:

Operating Costs plus Capital Costs = Total Costs ÷ 171 lbs. = Cost per cwt.

Net Returns to Owners Labour Risk and Management Per Hog Marketed:

Income less Total Costs.

C. Finishing Budget (Purchased Feeder Pigs) Enterprise - Income Per Hog

Income:

Similar to income in Finishing Section Budget of Farrow to Finish Enterprise.

Operating Costs:

Are similar to Finishing Section Budget of Farrow to Finish Enterprise with the exception of the feeder pig cost. The feeder pig is priced at the selling price of feeder pigs four months prior to selling of the market hog. Example: The market hog sold in July 1986 was a 50 lb. weaner pig in April, which sold for \$52.50 + \$2.96 (\$1.10 commission + \$1.75 transportation + Risk Fund .002% x \$52.50 = .11).

Capital Costs:

Are similar to the Finishing Section of Farrow to Finish operation.

Operating and Capital Costs:

Net returns = Income - Total Costs.

Summary of Pork Production Costs and Returns

Return to Labour/Hog

This figure indicates the return to labour, risk and management per hog marketed in a feeder pig, farrow to finish and finishing operation.

Operating Costs

The operating, or cash costs, cover items such as feed, services and Interest. The total operating costs are divided by 16 (16 feeder pigs produced) and then divided by 50 lbs. (weight of feeder pigs.)

Capital Costs

Includes depreciation, interest on investment and death loss on animals. Includes also overhead costs on buildings and equipment.

Break-Even Without Labour Charge

By adding operating and capital costs for each enterprise, a break-even is determined. When prices are extremely low, if a producer is covering operating costs and making some contribution to capital costs, they should normally continue production.

Break-Even With a Labour Charge

A labour charge is assessed against each enterprise based on the average industrial weekly wage in Canada. This wage appears in the Financial Post, under Chart Watch.

It is assumed that a 100 sow feeder pig operation requires 1 man unit, a 100 sow farrow to finish operation requires 1.5 man units and a 1600 hog annual finishing operation requires 0.7 man units. Average industrial weekly wage May 1986 was \$429.34. The following wages are allocated per enterprise:

(A) 100 Sow Feeder Pig Enterprise:

$$\frac{429.34 \times 52 \times 1.0}{1600} = \frac{13.95}{.50 \text{ lbs.}} = 27.9\text{¢/lb. or } \$27.90/\text{cwt live}$$

(B) 100 Sow Farrow to Finish Enterprise:

$$\frac{\$429.34 \times 52 \times 1.5}{(1600 \times 171 \text{ lbs.}) \text{ or } 273,600 \text{ lbs. of pork}} = 12.24/\text{cwt dressed}$$

(C) 1600 Market Hogs Marketed Annually

$$\frac{\$429.34 \times 52 \times 0.7}{(1600 \times 171 \text{ lbs.}) \text{ or } 273,600 \text{ lbs. of pork}} = \$5.71/\text{cwt. dressed}$$

Projected Net Return to Labour

In a feeder pig or farrow to finish enterprise normally the more pigs marketed/sow/year the greater the returns. Sow feed costs and capital costs for buildings and equipment are allocated to more animals, reducing the cost per animal marketed and increasing the returns to labour.

Projected Returns Hog Finishing Enterprise

We use the Chicago Mercantile Hog Futures Market to project what hog prices may be four months in the future.

On August 14, 1986, December 1986 Hog Futures closed at \$52.75 U.S.

*To convert to an Ontario Dressed Equivalent Basis, the following calculations are made:

- (1) To convert from U.S. Live to Ontario Dressed, divide by .79 (the average Ontario hog yield is 79%).

- (2) The Ontario price is quoted at 100 index, yet the average Ontario producer receives a 103.8 index. We divide by 103.8 to bring the U.S. price down to our average price.
- (3) The majority of U.S. hogs are priced plant delivered. We must bring their price down by the Ontario average delivery costs of \$1.00 per cwt. dressed. This is accomplished by subtracting \$1.00 from the Ontario price.
- (4) Rate of exchange - The U.S. dollar has been worth more than the Canadian dollar. On August 14, 1986, the U.S. dollar was worth \$1.3853, or approximately 39% more than the Canadian dollar.
- (5) Basis - is the difference between the current cash price for hogs in Ontario and a current futures price. If the current price is lower than the futures price, then basis is negative. Example: Cash is discounted to futures conversely if cash is at a premium to futures, then basis is positive. Basis tables for hogs 1977-1981 are obtained from Broadwater Livestock Basis Tables.

Projected Costs

Feeder pig, feed, services and capital costs are costed at current prices. This gives the producer an idea what his returns may be at market time.

Market Summary

Market hog and feeder pig prices and margins in various hog enterprises are provided as a guideline for what has happened in the past. Past corn, soybean meal and prime interest rates are also provided.

**SWINE HOUSING AND EQUIPMENT COSTS
100 SOW FARROW-TO-FINISH, APRIL 1986**

Franklin Kains, Agricultural Engineer
Ontario Ministry of Agriculture and Food, Waterloo Region

Description	Cost
1. BREEDING GESTATION UNIT CPS PLAN NO. M-3236	dollars
- 64 Sow Stalls, 8 sow pens, 5 Boar/Breeding Pens	
- Manure: 2 x 2' deep x 6' wide Stop & Flow Gutters	
- Cross Ventilation: Centre Air Inlet from Attic	
COSTS	
36'x 81' insulated shell	
including site preparation	32,000.00
Concrete floor with gutters	7,250.00
Slats	4,250.00
64 sow stalls, with concrete feed trough	7,250.00
Pen Partitioning, Posts, Brackets	4,250.00
Exhaust fans with hoods and controls	2,500.00
Centre Air Inlet	1,500.00
Plumbing, 13 Nipple Drinkers.....	1,000.00
Wiring	2,500.00
TOTAL COST	62,500.00
Cost per sow	625.00
Cost per sq. ft.	21.43
2. FARROWING/WEANLING UNIT CPS PLAN M-3303	
- 3 Farrowing Rooms with 8 crates per room designed for 4 farrowings per week, weaning at 4 weeks of age	
- 3 Weaner Rooms with three pens taking pigs from approximately 4 to 10 weeks of age	
- Both Farrowing and Weaner Rooms can operate all in/all out	
- Ventilation Air: Preheated in Hallway before entering rooms	
- Manure: 2' deep stop and flow gutters	
COSTS	
46' x 70' insulated shell including site preparation	44,000.00
Concrete Floor with 6 Gutters and Drain Tiles	12,000.00
6 Interior Wall Partitions, 9 Doors	6,000.00
Slated floors for Farrowing and Weaner Pens	7,000.00
Farrowing Crates, Pens, Creep Feeders, Heat Lights	8,000.00
Weaner Pens, Feeders	8,000.00
Exhaust Fans, Hoods, Controls, Room and Hall Heaters ..	9,000.00
Wiring	3,500.00
Plumbing	2,500.00
Total cost	100,000.00
Cost per sow	1,000.00
Cost per square foot	31.06
Option:	
One Room Farrowing, One Room Weaning Savings on Interior Partitions and Floor Space	8,000.00
Savings on Ventilation and Heating System	3,500.00
TOTAL SAVINGS	11,500.00

Description	Cost
3. FINISHING CPS PLAN NO. 3428	dollars
- Barn to house 600 hogs in 16 grower pens 6' and 16' grower pens, 16' - 8' * 16 finishing pens, with 7 - 5' * 12' - sick or tail enders pen	
- Partially slatted floors, 2' X 6" stop and flow gutters	
- Cross Ventilation through Centre Air Inlet from Attic	
COSTS	
145' X 36' insulated shell including site preparation .	48,500.00
Concrete floor with gutters	12,000.00
Slats	6,500.00
Pen Partitions, gates, posts	9,750.00
21 self feeders	5,000.00
147 Centre air inlet	3,000.00
Exhaust fans, hoods, controls	7,000.00
Plumbing, including 69 nipple drinkers	3,500.00
Wiring	3,000.00
Total cost	98,250.00
Cost per sow	983.00
Cost per square foot	21.32
Cost per pig housed	164.00

Option: Natural Ventilation

Naturally ventilated hog finishing barns generally are the same cost as fan ventilated barns. Savings in fans are offset by higher structural costs (e.g. scissor trusses) and by ventilation panels. Factory made automatic ventilation side panels and peak closures costs \$40/ft. for side panels, and \$20/ft. for peak closure (total \$100/ft. of barn).

4. MISCELLANEOUS ITEMS	dollars
FEED: H.M. oxygen limiting silo 20' X 60'	40,000.00
Feed room 36' x 16', office	14,500.00
Electric mixer-grinder	22,500.00
Two 10-ton bins, augers, feed carts	8,590.00
MANURE: Liquid manure storage 70' diam. X 12', open top	21,000.00
Liquid manure pump, 3,000 gallon spreader	11,000.00
Sump, Transfer Pump, Wiring	1,750.00
WATER: Well, 150' deep with pump - complete	4,250.00
HYDRO: Service from road to barn - complete	2,000.00
TOTAL COST	125,500.00
Cost per Sow	1,255.00

SUMMARY OF COSTS

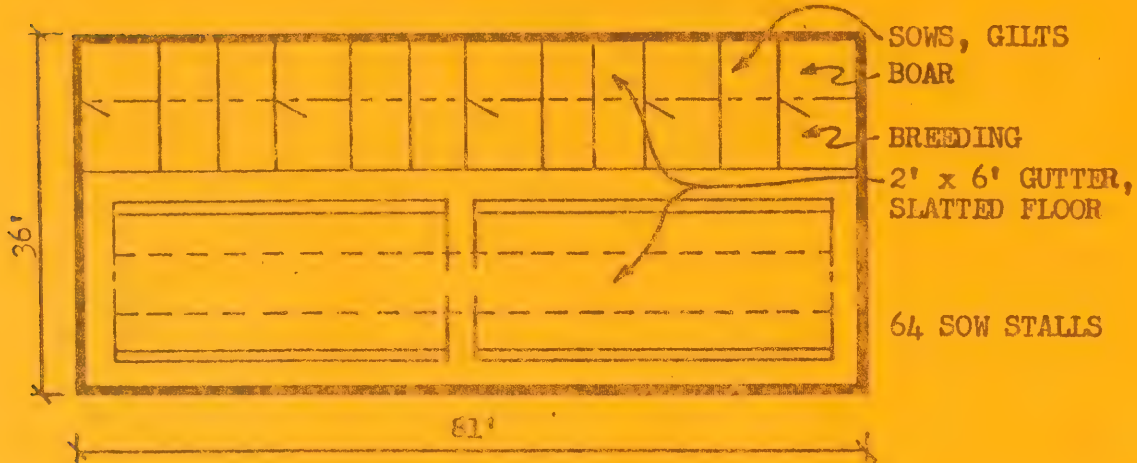
(Farrow to finish, 4 litters per week)

	TOTAL		Cost/Sow
	\$		\$
Dry sow breeding	62,500.00	625.00
Farrowing/weaning	100,000.00	1,000.00
Finishing	98,250.00	983.00
Miscellaneous	125,500.00	1,255.00
TOTAL COST	386,250.00	COST PER SOW	3,863.00

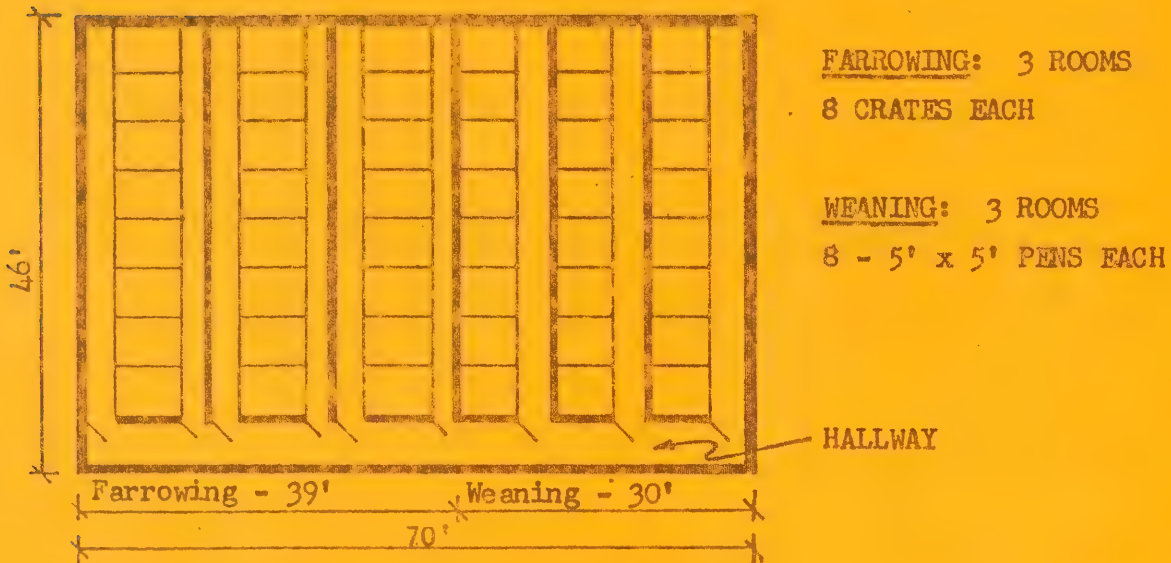
NOTES:

1. Based on 100 sows, farrowing 4 litters/week, producing 1,800 market hogs/year.
2. Buildings are conventional insulated stud wall construction, lined with steel inside and out.
3. Insulated concrete sandwich wall construction will add \$10.00 per linear foot of wall or \$0.80 per square foot to the shell cost.
4. Covered concrete manure storage would cost twice as much open.

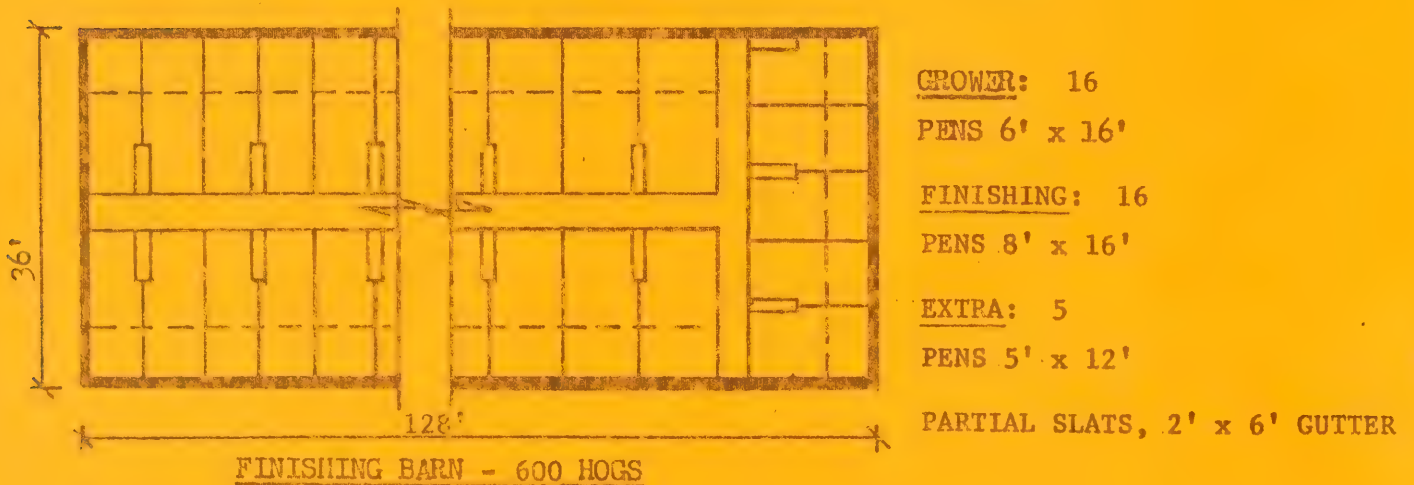
BUILDING LAYOUTS FOR 100 SOW - FARROW-TO-FINISH HERD



DEK SOW/BREEDING



FARROWING/WEANING



APPENDIX "B"

SWINE HOUSING AND EQUIPMENT COSTS, Revised August 1986

1. SWINE FARROWING OPERATION (based on 100 Sow Operation)

<u>Facility</u>	<u>Building Costs</u>	<u>Equipment Costs</u>
(a) Breeding-Gestating Barn (CPS Plan M-3236)	\$43,500.00	\$19,000.00
(b) Farrowing Barn (Plan 3025)		
All-in All-out Farrowing & Weaner Rooms	62,000.00	38,000.00
(c) Feed and Manure Storage		
(i) 5500 bu. sealed H.M.C. concrete silo @ \$2.00/bu. \$11,000.00 = 28% of total silo cost	11,000.00	
(ii) Feed room & Office 28% x 14,500	4,060.00	
(iii) Feed Processing, Bulk Bins & Augers 28% x \$31,090.00		8,705.20
(iv) Liquid Manure tank 80,000 gals. x 7.5¢/gal.	6,000.00	
(v) Sump, Transfer pump wiring 28% x 1750.00		490.00
(vi) Liquid manure, 3000 gal. spreader 28% x 11,000.00		3,080.00
(d) Water and Hydro Service		
(a) Water 150' well x 50% of cost \$4250.00		2,125.00
(b) Hydro Service x 50% of cost \$2000.00		1,000.00
TOTAL COSTS.....	\$126,560.00	\$72,400.20

2. FINISHING HOG OPERATION (1800/year Annual Output)

<u>Facility</u>	<u>Building Costs</u>	<u>Equipment Costs</u>
(a) Finishing Barn (CPS Plan 3428)	\$67,000.00	\$31,250.00
(b) Feed and Manure Storage		
(i) 14,500 bus. sealed concrete silo @ \$2.00/bu.	29,000.00	
(ii) Feed room & Office 72% x \$14,500.00	10,440.00	
(iii) Feed processing, Bulk bins & Augers 72% x \$31,090.00		22,384.80
(iv) Liquid manure tank 200,000 gal. x 7.5¢/gal.	15,000.00	
(v) Sump, Transfer pump, wiring 72% x 1750.00		1,260.00
(vi) Liquid manure, 3000 Gal. spreader 72% x 11,000.00		7,920.00
(c) Water and Hydro Services		
(i) Water 150' well x 50% of cost \$4250.00		2,125.00
(ii) Hydro Service x 50% of cost \$2000.00		1,000.00
TOTAL COSTS	\$121,440.00	\$65,939.80

3. *CALCULATED BUILDING AND EQUIPMENT COSTS PER ANIMAL

$$(a) \text{ Building Costs/Sow} = \frac{16.10}{100} \times \$126,560.00 = \frac{\$20,376.16}{100} \times 50\% = \$101.88$$

$$(b) \text{ Equipment Costs/Sow} = \frac{21.65}{100} \times \$72,400.20 = \frac{\$15,674.64}{100} \times 50\% = \$78.37$$

$$(c) \text{ Building Costs/Finishing Hog} = \frac{16.10}{100} \times \$121,440.00 = \frac{\$19,551.84}{1600} \\ \times 50\% = \$6.11$$

$$(d) \text{ Equipment Costs/Finishing Hog} = \frac{21.65}{100} \times \$65,939.80 = \frac{\$14,275.97}{1600} \\ \times 50\% = \$4.46$$

*It is assumed that average Ontario swine buildings and equipment are 50% depreciated. If new buildings and equipment are used, these figures should be doubled.

APPENDIX "C"

OVERHEAD COST ESTIMATES AS A % OF NEW COST

<u>Overhead Factor</u>	<u>Swine Buildings</u> %	<u>Swine Equipment</u> %
*Depreciation	6.70	10.00
**Interest	6.00	6.00
Repair and Maintenance	2.00	5.00
Taxes	.75	0.00
Insurance	.65	.65
	<u>16.10</u>	<u>21.65</u>

*Swine buildings are depreciated over 15 years or 6.70%/year and swine equipment is depreciated over 10 years or 10%/year.

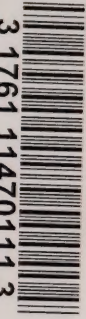
**12% on the average investment or 6% on the initial cost.

SWINE BUDGET CHANGES:

Changes may be made in monthly budgets in Pork News & Views to reflect current costs. The general format of the swine budget, however, should not change significantly.

INTERPRETING O.M.A.F. SWINE BUDGET

If you require additional information on calculating pork production costs and returns, please contact your local Ontario Ministry of Agriculture and Food office.



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